

# SOCIAL DEVELOPMENT

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## Reproductive health as a factor in quality of population reproduction

*The paper substantiates the significance of health for population reproduction, examines reproductive health trends in the Vologda region in comparison with Russia in whole. It reveals main problems and causes of worsening reproductive health and therefore reproduction of population.*

*Birth rate, reproductive health, quality of reproduction of the population.*



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Reproduction of Russia's population in the conditions of its number's reduction represents the extremely actual problem exceeding the bounds of the demographic problems' framework; the country's economic competitiveness, its place in the world arena, and the state unity's preservation depends on this problem's decision. Depopulation can be overcome in two basic ways.

The first and the most significant of them for population's preservation is the untimely death rate's decrease. As a whole for the period from 2003 to 2008 the death rate in the Russian Federation has decreased from 16.4 to 14.6 for 1 thousand people. However, in 2007 the same parameter in the countries of the EU made 9.7 for 1 thousand people [2] that is evidence

of the necessity of the further improvement of the situation in Russia. Both in the country in general, and in the regions in particular it consists in the infant mortality rate's decrease; in the reduction of the controlled reasons' death; in overcoming the untimely death rate among people elder than the able-bodied ones on the basis of the older people's life quality improvement; in strengthening public health due to the increase of public health system's efficiency and to the health-protecting behavior of the population [5, 6].

The second way involves the change of the situation in the sphere of birth rate. Here positive changes have taken place for the last decade. The general birth-rate in Russia, having reached the least value in 1999 (8.3%), in 2004

increased to 10.4%, and in 2008 it increased to 12.1%. To compare we can mark that in 2007 in the countries of the European Union the general birth-rate made 10.6% on the average, with the maximal value (13%) in France. And still the substantial increase of birth rate still cannot be observed. But the other fact attracts attention. According to the medical statistics' data, almost 40% of children in Russia have problems with health from their birth. In this connection it is necessary to be guided not only by the increase of the birth rate, but by its preservation and at the same time by the improvement of the quality of the population's reproduction. The latter is impossible without population's reproductive health preservation and increase.

The reproductive health is the major component of the health of a person, a family and a society as a whole. The World Health Services Organization defines the reproductive health as the human ability to conceive and to give birth to children, the opportunity of sexual relations without any threat of the diseases transmitted in a sexual way, the guarantee of pregnancy and childbirth safety, the children's survival, the mothers' well-being and the opportunity of the subsequent pregnancy planning, including their undesirable prevention<sup>1</sup>. Favorable conditions' and preconditions' creation for the achievement of the reproductive health optimum level in a society allows women to pass the stage of pregnancy and childbirth safely and gives married couples the best chance to have the healthy baby. The concept "reproductive health" concerns both women and men [8].

Rather often the indices of the maternal and infantile mortality, the rate of abortions, the morbidity of the diseases transmitted in the sexual way, etc. are used for characterizing reproductive health. However, we also should

<sup>1</sup> Cited: Strategy in the Reproductive Health's Field [The electronic resource] / The World Health Services Organization. — Geneva, 2004. — P. 8. — The Mode of access: [http://whqlibdoc.who.int/hq/2004/WHO\\_RHR\\_04.8\\_rus.pdf](http://whqlibdoc.who.int/hq/2004/WHO_RHR_04.8_rus.pdf)

mention the parental health's potential, especially the reproductive one as in many respects it determines the opportunity for conception, pregnancy and childbirth course, the future child's health. In this connection it is worthwhile to add the characteristics of reproductive health mentioned above to the block of parameters, illustrating the level (*tabl. 1*).

Owing to the incomplete statistical data the reproductive health research is carried out at the regional level.

From the beginning of the XXI century the reproductive potential's decrease in the future parents' health has been marked. The sickness rate of the urogenital system's diseases of the population in Vologda region increased from 30 cases for 1 thousand people in 2000 to 40 cases in 2007 (*fig. 1*).

The diseases' growth on many nosologic forms of both male and female reproductive systems is marked; and that increases the risk of barrenness, different complications during pregnancy and childbirth (*tabl. 2*).

The ability to conception and child-bearing has reduced. The rate of the female barrenness has essentially increased (*tabl. 3*). The rate of the male barrenness in 2008 4 times exceeded the level of 2000; however it is twice lower than the rate of the female barrenness.

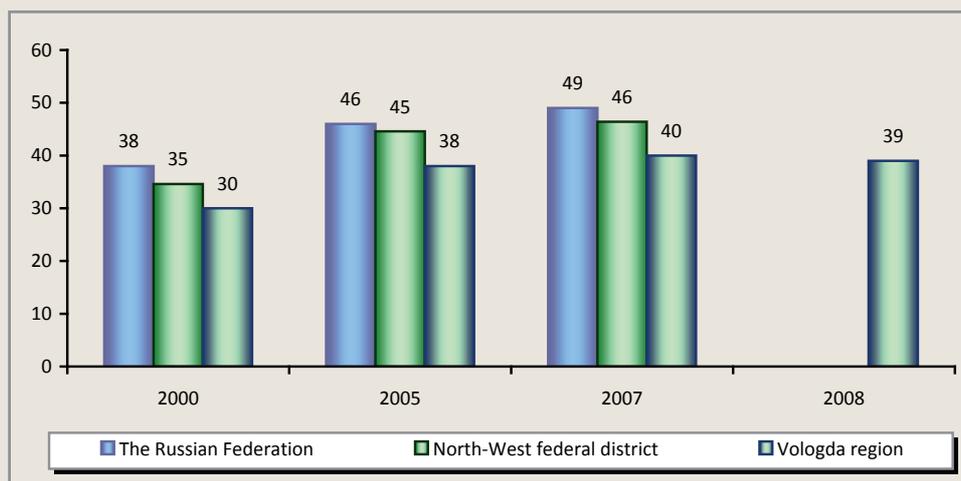
At the same time, according to the data of the World Health Services Organization, in 45% cases of sterile families<sup>2</sup> men were the cause of such situation, in 40% cases the reason were women and in 15% cases the reasons of barrenness involve either physiologic incompatibility, immunological barrenness and other reasons. Such inadequacy confirms the existence of the problem of insufficient attention to men's health from the direction of specialists-andrologists and of referring the part of diagnoses to women; so, the real rate of male barrenness is higher than the statistical rate.

<sup>2</sup> A couple is considered to be sterile if after a year of regular sexual life without contraception pregnancy has not ensued. In 30% of healthy married couples pregnancy begins during the first three months of marriage, in 60% pregnancy begins during the following seven months, in 10% pregnancy begins 11 or 12 months after the beginning of the sexual life.

Table 1. Reproductive health's estimation structure

Characteristics	Parameters	Units
Future parents' sexual health	Urogenital system's diseases	1 case to 1,000 people
	Endometriosis	1 case to 100,000 people
	Cervical erosion and ectropion	1 case to 100,000 people
	Disordered menstrual cycle	1 case to 100,000 people
	Salpingitis, oophoritis	1 case to 100,000 people
	Prostate gland illnesses	1 case to 100,000 people
Human ability for conception and childbirth	Male sterility	1 case to 100,000 people
	Female sterility	1 case to 100,000 people
Opportunity of sexual relations without any threat of the diseases transmitted in a sexual way	Gonorrhoea	1 case to 100,000 people
	Syphilis	1 cases to 100,000 people
Opportunity of pregnancy planning	Number of abortions	To 1,000 women of childbearing age
	Contraceptives' use	In % from the number of women of the fertilization age
Pregnancy and childbirth safety	Pregnant women's diseases on nosologic forms	In % of all parturient women
	Complications during pregnancy and childbirth	1 case to 1,000 women of the fertilization age
	Preterm delivery	In % of all parturient women
	The diseases having complicated childbirth and puerperal period	1 case to 1,000 childbirths
Children's survival and mothers' Well-being	Infant mortality	A number of dead to 1,000 born alive
	Maternal mortality	A number of dead to 100,000 born alive
	Congenital and developmental anomalies, deformations and chromosomal infringements	1 case to 100,000 people
	A share of children, born patients	In % of the number of born alive
	Premature newborns	In % of the number of born alive

Figure 1. Sickness rates of the urogenital system's diseases (for 1 thousand people) [5, 9]



The diseases transmitted in the sexual way are the characteristics of the reproductive health; they also essentially raise the probability of barrenness. Due to the program "Anti HIV-AIDS" realized in the Vologda region, the rate

of the general morbidity with the infections transmitted in the sexual way, decreased from 13,211 cases in 2000 to 7,207 in 2007. However gonorrhoea as one of the most widespread infections is diagnosed in the region (fig. 2).

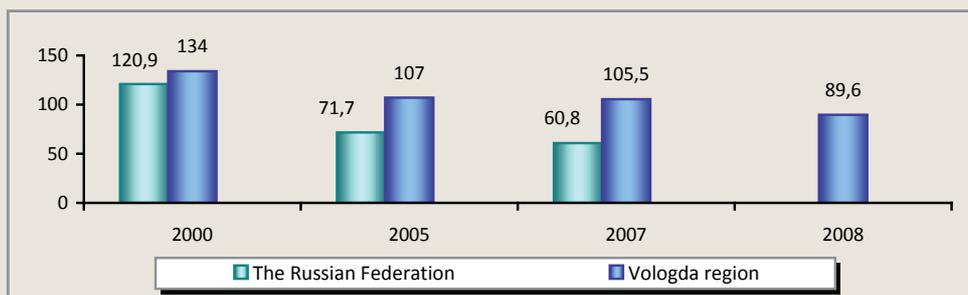
Table 2. Sickness rates of the reproductive system's diseases (for 100 thousand people) [5, 9]

Diseases	2000		2008		2008 to 2000, %	
	Vologda region	Russian Federation	Vologda region	Russian Federation	Vologda region	Russian Federation
Pathologic menopause	158.2	No data	305	No data	193	No data
Endometriosis	54.3	No data	91.6	No data	169	No data
Prostate gland illnesses	234.8	No data	352.5	No data	150	No data
Cervical erosion and ectropion	545.9	812.3	687.5	807.0	126	99
Disordered menstrual cycle	1 441.1	876.9	1 549.6	1 276.9	108	146
Salpingitis, oophoritis	335.1	No data	272.2	No data	81	No data

Table 3. The rate of the barrenness disease (for 100 thousand people) [5, 9]

Barrenness	2000		2007		2008		2008 to 2000, %	
	Vologda region	Russian Federation	Vologda region	Russian Federation	Vologda region	Russian Federation	Vologda region	Russian Federation
Male	0.3	No data	1.2	No data	1.1	No data	367	No data
Female	72.2	138.4	91.8	183.0	98.2	183.0	136	132

Figure 2. Gonorrhoea morbidity (for 100 thousand people) [5, 9]



The low level of the sexual and the social-hygienic practices of the population, especially of youth, are the factors of the reproductive health deterioration.

The sociological research<sup>3</sup> shows, that the early sexual debut is more characteristic for men: 27% of young men and 15% of girls started their sexual life under 17 years (*tabl. 4*). Thus 56% of the first sexual contacts were not protected.

The absence of the social-hygienic practice is also observed among adult population. The analysis of the sociological data has shown

<sup>3</sup> The population reproductive potential's monitoring has been carried out by the Institute of Social and Economic Territories Development of RAS since 2004. The data was chosen according to the areas, sex and age. The fault doesn't exceed 5%.

that the rate of the population's knowledge in the reproduction matters from the number of people of the childbearing age is 49% lower than the average regional level (3.9 points on a 5-mark scale).

At the same time 13% of inhabitants of childbearing age have fickle chance sexual contacts, from them 12% do not use contraceptive means at all that increases the probability of the infections transmitted in the sexual way.

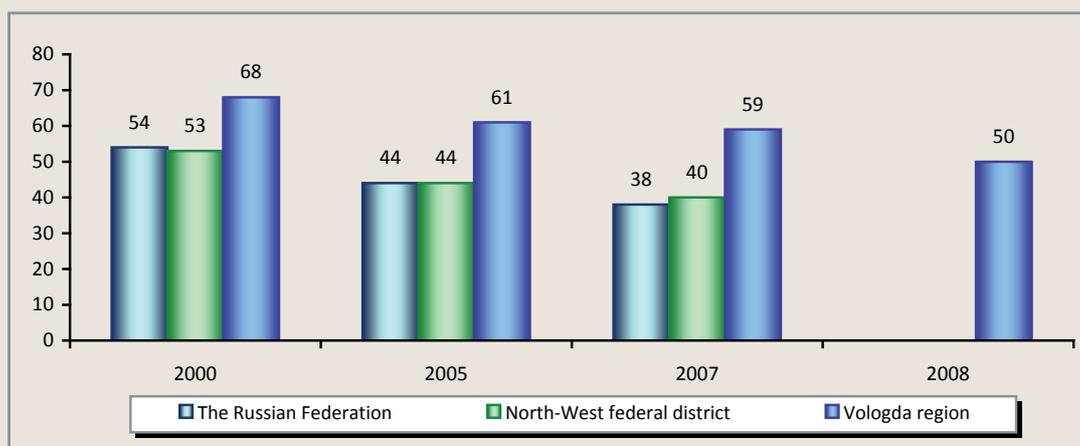
Low population's knowledge in the reproduction matters and the irresponsibility in the sexual behavior increase the risk of the undesirable pregnancy followed by abortion. The analyses of the barrenness' reasons allowed indirectly prove these conclusions during the realization of program "ECO" which was

Table 4. Distribution of the answers to the question: "What age have you lived your sexual life from?"

Age	Men		Women	
	2007	2008	2007	2008
Under 17 years	29.1	27.2	15.1	17.7
After 17 years	21.8	20.3	19.8	17.1
Since 18 years and elder	34.9	43.7	49.9	52.8
I do not have sexual relations	13.1	7.9	14.4	11.2

Source: the data of the population reproductive potential's monitoring carried out by the Institute of Socio-Economic Territories Development of RAS, 2007, 2008.

Figure 3. The number of abortions for 1000 women of childbearing age (15 – 49 years) [5, 7]



started in the Vologda region in 2005. By the experts' estimations, 80% of barrenness' cases were caused by low population's knowledge in the reproduction matters and the irresponsibility in the sexual behavior.

About 56% of pregnancies in the region are interrupted by surgical procedure. Despite of the reduction of the abortions' number from 68 for a thousand women of childbearing age in 2000 to 50 women in 2008, the mentioned level is defined as high<sup>4</sup> according to the United Nations' Organization classification (*fig. 3*).

One of the important characteristics of the reproductive health is also pregnancy and delivery course. In turn, the reproductive health influences pregnancy course and its result. For the period from 2003 to 2007 the sickness rate among pregnant women increased. Anemia

<sup>4</sup> The frequency levels of abortion for 1000 women of the childbearing age are: very low makes less than 10%, low makes 10 – 19%, average makes 20 – 49%, high makes more than 50% (UNO).

is the most frequent among the diseases; the second place is occupied by the urogenital system's diseases, and the third place is occupied by edemas, proteinuria and hypertensive disorders (*tabl. 5*).

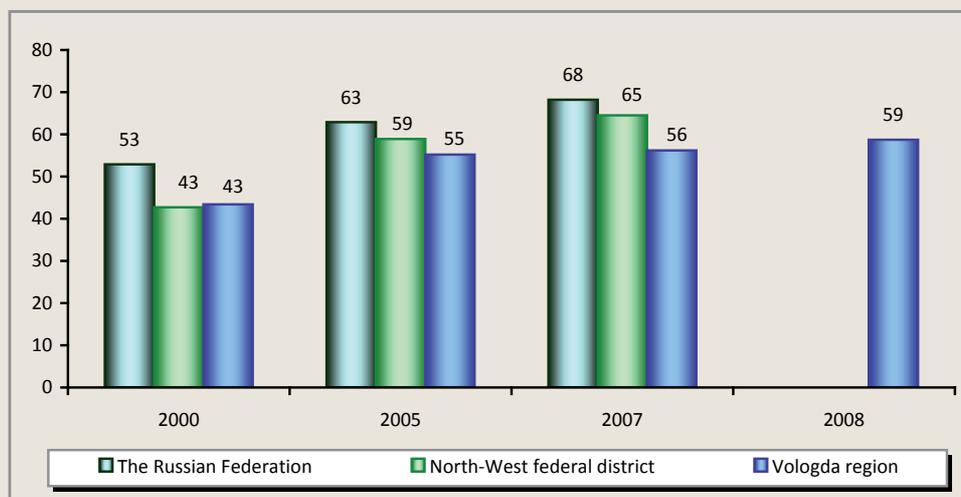
The rate of pregnancy and childbirth complications in the region increased from 43 cases for 1,000 women of the fertilization age in 2000 to 59 cases in 2008 (*fig. 4*).

The growth of the diseases of the pregnant women and the pregnancy and childbirth complications illustrates the reduction of the women's health potential as a whole. All this determines the necessity of the complex medical women's inspection and of updating their health condition at the period anticipating conception. Such necessity is caused by the presence of two tendencies in the reproductive behavior of the population. First, they involve insignificant planning of a family (unexpected pregnancy is a consequence in this case); and secondly, the low level of sexual and social-hy-

Table 5. Pregnant women's morbidity in 2003 – 2007, % [3, 9]

Diseases	2003		2007		2007 to 2003, %	
	Russian Federation	Vologda region	Russian Federation	Vologda region	Russian Federation	Vologda region
Anemia	42	36	39	31	93	86
Edemas, proteinuria and hypertensive disorders	22	15	19	11	86	73
Urogenital system's diseases	20	23	20	20	100	87
Blood circulation's diseases	14	7	10	7	71	100
Venous' complications	4	2	4	2	100	100
Other illnesses	–	11	–	22		200

Figure 4. Pregnancy and childbirth complications, 1 case for 1000 women of the childbearing age (15 – 49 years) [5, 7]



gienic practice of the population. As a result the probability of the unplanned pregnancy, complicated deliveries, deviations in the fetation, and the birth of an enfeebled child increases. Parents' health potential, pregnancy and childbirth course in many respects determine the future child's health; so timely revealing of the existing problems is required.

Preterm delivery, sick children's birth, maternal and infant mortality, mortinataly are the results of the complicated anamnesis of pregnant women. Approximately 4% of pregnancies in the region come to an end with preterm delivery<sup>5</sup> that is a little bit higher than the all-Russian level (*tabl. 6*).

<sup>5</sup> In Russia the preterm delivery we call the delivery coming at the period from 28 to 37 weeks of pregnancy. The premature infant are born with the weight 1 – 2.5 kilos, they are 35 – 45 cm long, and they have the signs of the general organism's immaturity [4].

The number of the prematurely born children in Russia makes 5.9% of newborns for the considered period, in the Vologda region it makes 5.5%. The tendency of the prematurity parameter decrease is observed, and in the region the rates of such decrease are higher than the all-Russian rates (*tabl. 7*).

At the same time in the region the newborn children's health improves: in 2000 the share of children, born patients or fallen ill, made 39.9%; in 2007 it made 32.5%; it is less than in Russia in general (*fig. 5*). However, even at the positive dynamics, the rate is still rather high. The fact that the positive tendency in this aspect exists, indirectly proves by the decrease of probability for a child to die up to 5-years age (from 19.6 for 1,000 live-born in 2000 to 13 in 2006). In comparison with the countries of the EU in which the similar parameter changed

Table 6. Preterm delivery (in % from the number of parturient women) [5, 9]

Territory	2000	2008	2008 to 2000, %
Cherepovets	2.9	3.8	131
Vologda	4.1	4.1	100
Areas	7.0	4.2	60
Region	3.8	4.1	108
The Russian Federation	4	3.3*	83

\* The data for 2007.

Table 7. Born premature (in % from the number of the born alive) [5, 9, 10]

Territory	2000	2008	2008 to 2000, %
Cherepovets	7.6	4.4	58
Vologda	7.3	5.9	81
Areas	5.3	4.3	81
Region	6.6	5.2	79
The Russian Federation	5.9	5.3*	90

\* The data for 2007.

from 7.07 in 2000 to 5.7 for 1,000 live-born in 2006, in the Russian Federation the mentioned problem remains rather urgent [1].

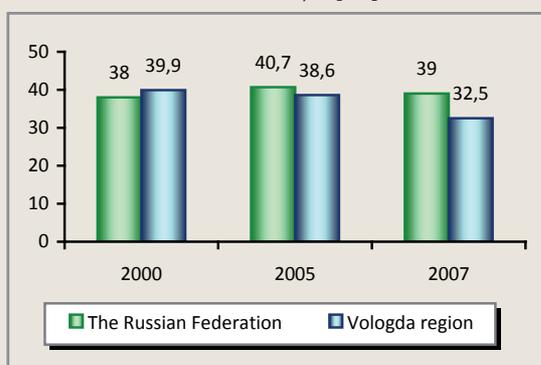
The maternal mortality's rate both in Russia and in the region continues to exceed considerably the level at the countries of the EU (fig. 6).

Thus, the carried out analysis allows referring to the safest parameters the ones describing the work of the maternity obstetric service which provided the decrease of the maternal and infant mortality rate and the prematurely born children's number, and also provided

some improvement of the newborns' health. The opportunity of planning pregnancy also has its positive aspects: the number of abortions decreases; the level of contraceptive means' use rises. The morbidity of the infections transmitted in the sexual way is reduced that raises the opportunity for safe sexual relations.

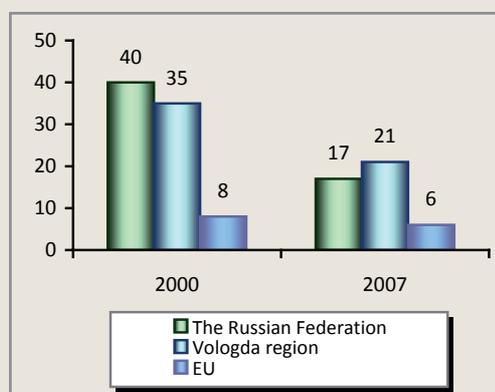
Alongside with it the negative tendencies still exist: the urogenital system diseases' growth, gynecologic diseases, barrenness remain, that proves the low level of both the population health's potential and the popular-

Figure 5. Newborn children's health: born patients or fallen ill (in % from the number of live-born) \* [10]



Source: the data of the Vologda regional children's hospital.

Figure 6. Maternal mortality rate (the number of died for 100 thousand live-born) [1, 2, 3]



ity of the healthy way of life and the responsibility for the future children's health.

Despite of the positive tendencies, the Russian Federation (and the Vologda region in particular) continues to remain behind the countries of the European Union under all characteristics of the reproductive health.

Parents reproductive health's potential, correct reproductive behavior, influencing the

opportunity of conception, course of pregnancy and childbirth, mothers' and children's health in many respects determine the quality of the population's reproduction. It determines the necessity and the importance of the reproductive health and demands methodical work on the formation of the correct reproductive behavior, on timely revealing of problems and on their decision.

### References

1. Demographic year-book of Vologda region: coll. of stat. / Vologdastat. – Vologda, 2009.
2. European database (HFA-DB), WHSO [Electronic resource]. – Mode of access: <http://data.euro.who.int/hfad/index.php?lang=ru>
3. Women and men of the Vologda region: Figures and facts: coll. of stat. / Vologdastat. – Vologda, 2008.
4. The Medical Encyclopedia [Electronic resource]. – Mode of access: <http://www.med74.ru>
5. The basic parameters of the public health services' activity in the Vologda region for 2000, 2002, 2006, 2008. – Vologda: Department of the public health services of the Vologda region, 2001, 2003, 2005, 2007, 2009.
6. The Regional Strategy of Economic Growth – 2015 / ed. V.A. Ilyin; VSCC CEMI RAS. – M.: Science, 2007. – 244 p.
7. Regions of Russia: Social and economic indices, 2008 [Electronic resource] / Federal service of the state statistics. – Mode of access: [www.gks.ru](http://www.gks.ru)
8. Reproductive health: The role of WHSO in the global strategy. Mother's and children's health protection and planning family: the quality of help // Materials of the 48th session of WHSO. Series: Technical reports № 569. – Geneva: WHSO, 1977. – P. 7.
9. The Russian statistical year-book, 2008 [Electronic resource] / Federal service of the state statistics. – Mode of access: [www.gks.ru](http://www.gks.ru)
10. Family in Russia – 2008 [Electronic resource] / Federal service of the state statistics. – Mode of access: [www.gks.ru](http://www.gks.ru)
11. The Strategy in the field of reproductive health [Electronic resource] / The World health services organization. – Geneva, 2004. – P. 8. – Mode of access: [http://whqlibdoc.who.int/hq/2004/WHO\\_RHR\\_04.8\\_rus.pdf](http://whqlibdoc.who.int/hq/2004/WHO_RHR_04.8_rus.pdf)